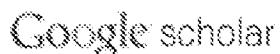


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[caltech.edu \[PDF\]](#)**Free boundary conditions at austenite-martensite interfaces**

OP Bruno, PH Leo, F Reitich - Physical review letters, 1998 - APS

... (Note that in our dynamic configuration and due to the additional dissipative stress, the actual strains in the austenite and martensite ... The **free boundary problem** (1)-(4) can be used to derive simple expressions in closed form giving observables such as the width of the ...

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SG Bankoff - Advances in chemical engineering, 1964

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Nonequilibrium thermodynamics of pseudoelasticity

Y Huo, I Müller - Continuum Mechanics and Thermodynamics, 1993 - Springer

... Here U , K , S are the internal energy, kinetic energy and entropy of the body, q_i is the heat flux, t_{ij} the Cauchy stress tensor, v_i the velocity, n_i the outer normal and dA the area element on the **boundary** OB. ... Thus the specific **free** energies $f_i = F/m$ of the **austenite** and martensite ...

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... of free energy of δ-ferrite/y-austenite interphase boundary of low carbon steels by ...

H Yin, T Eini, H Shibata - ISIJ International, 1998 - Journal@rchive

... hot-direct-rolling process and in mini-mills with thin-slab-casting process, finer **austenite** (y) grains are prerequisite because most of ferrite (oc) grains nucleate and grow at the y-grain **boundary** (referred as GB hereafter). ... y-grains in -matrix and hence the **free** energy of /y IB ...

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... Lack of the wisc property implies non-existence of a minimizing deformation for given **boundary** data and hence indicates the formation of ... In this paper, we do not directly address the evolutionary **problem**, rather we consider in some detail the **free** energy density of the ...

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GJ Hall, S Govindjee - Journal of the Mechanics and Physics of Solids, 2002 - Elsevier

... in every way save orientation, the resulting function must have multiple "wells" corresponding with **austenite** and each ... see Ericksen (1986), and (1). (Kohn, 1991), where $W \alpha$ is the **free** energy of ... a body made of such a material will evolve under a given set of **boundary** conditions ...

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JB Gilmour, GR Purdy, JS Kirkaldy - Metallurgical and Materials ..., 1972 - Springer

... The paraequi-librium **boundaries** project to the true binary equilibrium on the Fe-C side and to the To composition (the point where **austenite** and ferrite of the same composition have equal **free** energy) on the Fe-Mn side. ...

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M Cherkaci, M Berveiller, X Lemoine - International Journal of Plasticity, 2000 - Elsevier

... In order to obtain the driving force acting on the moving **boundary**, the two-phase martensitic-**austenitic** material can be ... the dissipation is given by the difference between the power developed by the external forces and the variation of the Helmholtz **free** energy chosen as a ...

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... 2. The **free** energy difference is then defined in the standard way by the latent heat L and the ... The amount of carbon in the ferrite at the phase **boundary** to the liquid always tends to adjust the equilibrium ... **austenite** grows under simultaneous dissolution of ferrite and of the liquid ...

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Modelling the evolution of phase boundaries in solids at the meso-and nano- ...

K Thornton, J Agren, PW Voorhees - Acta Materialia, 2003 - Elsevier

... We expect that ab initio calculations of interfacial **free** energies will become much widely available ... After analyzing available experimental information on the massive ferrite/**austenite** transformation, recrystallization and grain ... [70 and 71] investigated grain **boundary** migration in ...

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